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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: M. KITAMURA, et al

Serial No.: 10/673,195

Filed: September 30, 2003

For: COMPUTER SYSTEM

**RENEWED REQUEST FOR RECONSIDERATION OF PETITION TO MAKE  
SPECIAL UNDER 37 CFR 1.102(d) and MPEP. §708.02, VIII**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

June 22, 2005

Sir:

**1. Petition**

Applicants hereby renews its Petition to make this application **Special** previously submitted on March 11, 2005, in accordance with 37 CFR §1.102(d) and MPEP 708.02, VIII. The March 11, 2005 Petition was denied by a Decision issued on May 4, 2005 in which the Petitions Examiner stated that the March 11, 2005 Petition failed to recite distinct features of the claimed subject matter. The present Request for Reconsideration of Petition incorporates by reference the March 11, 2005 Petition and provides additional details regarding the claims and how the claimed subject matter is patentable over the references. The present invention is a new application filed in the United States Patent and Trademark Office on September 30, 2003 and as such has not received any examination by the Examiner.

**(A) This Petition is accompanied by the fee set forth in 37 CFR §1.17(h).**

The Commissioner is hereby authorized to charge any additional payment due, or to credit any overpayment, to Deposit Account No. 50-1417.

**(B) All claims are directed to a single invention.**

If the Office determines that all claims are not directed to a single invention, Applicant will make an election without traverse as a prerequisite to the grant of special status.

**(C) A pre-examination search has been conducted.**

The search was directed towards a storage system. In particular, the search was directed towards a computer system including a plurality of computers, first and second servers connected to the computers and a storage system connected to the first and second servers, the first and second servers individually, and a backup method for performing backup in the computer system.

According to the present invention, the storage system includes a plurality of storage devices and a storage controller which controls the storage devices.

The first server includes a first memory which stores a first program and a first CPU which executes the first program, and the second server includes a second memory which stores a second program and a second CPU which executes the second program. The second program includes a part for making a request to the first server for information necessary for the

second server to backup a file as a back object instead of the first server and the first program includes a part which responds to the request by sending the second server an identifier of a second storage device that stores duplicate data of the file. The second program further includes a part which obtains backup data from the second storage device based on the identifier.

The backup method provides that the second server makes a request to the first server for information necessary for the second server to backup the file as a backup object instead of the first server, and the first server sends an identifier of a second storage device that stores duplicate data of the file in response to the request and the second server obtains backup data from the second storage device based on the identifier.

The search of the above features was conducted in the following areas: Class 707, subclass 204; Class 709, subclass 219; Class 711, subclasses 161, 162; and Class 714, subclass 6.

Additionally, a computer database search was conducted on the USPTO systems EAST and WEST.

**(D) The following is a list of the references deemed most closely related to the subject matter encompassed by the claims:**

<u>U.S. Patent No.</u>	<u>Inventors</u>
6,000,020	Chin et al
6,260,069	Anglin
6,604,118	Kleiman et al
6,611,923	Mutalik et al

U.S. Patent Application Publication No.

Inventor(s)

2003/0212870

Nowakowski

2004/0073677

Honma et al

2004/0167972

Demmon

A copy of each of these references (as well as other references uncovered during the search) was enclosed with the March 11, 2005 IDS.

**(E) It is submitted that the present invention is patentable over the references for the following reasons.**

It is submitted that the cited references, whether considered alone or in combination, fail to teach or suggest the invention as claimed. In particular, the cited references, at a minimum, fail to teach or suggest:

a first feature of the present invention wherein the second server makes a request to the first server for information necessary for the second server to backup a file as a backup object instead of the first server, the first server sends an identifier of a second storage device that stores duplicate data of the file, in response to the request and the second server obtains backup data from the second storage device based on the identifier;

a second feature of the present invention wherein the first server inhibits write into a file as a backup object, in response to a request information necessary for the second server to backup the file instead of the first server with a request being made by the second server, writes data that has not been written yet into the first storage device to store the file into the first storage device, generates duplicate data of the file, and sends the second server an identifier of a second storage device that stores the duplicate data;

and

a third feature of the present invention wherein the second server makes a request to the first server for information necessary for the second server to backup a file as a backup object instead of the first object, receives an identifier of a second storage device that stores duplicate data of the file from the first server and obtains backup data from the second storage device based on the identifier.

Each of the independent claims recites at least one of the above described first and second features of the present invention. In particular, independent claims 1 and 14 recite the first feature, independent claim 7 recites the second feature and independent claim 10 recites the third feature.

The references considered most closely related to the claimed invention are briefly discussed below:

Chin (U.S. Patent No. 6,000,020) shows a system for data storage management and transparent data backup. The system includes a transaction server and a first storage system on a main loop, and a second storage system and a backup/HSM server on a second loop. The second loop is connected to the main loop by a bridge so that whenever the transaction server makes a write transaction to the first storage system, the transaction is mirrored across the bridge to the second storage system. The backup/HSM server is free to carryout storage management and backup duties whenever the transaction server is not using the second loop. Typical backup/HSM transactions include moving data that has not been used for a predetermined period of time, or that is older than a predetermined age to archival storage.

This is done by reading data from the mirrored storage drives and then performing write transactions to a CD WORM drive or a tape drive. (See, e.g., Abstract, column 2, line 53, through column 3, line 32, column 5, line 63, through column 9, line 48).

Thus, Chin does not teach or suggest the present invention in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier. More particularly, Chin does not teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 14, the above described second feature of the present invention as recited in independent claim 7 and the above described third feature of the present invention as recited in independent claim 10.

Anglin (U.S. Patent No. 6,260,069) shows a system for backing up files in a distributed file system. A backup request is initiated by a backup client program to backup a requested file. The file server maintains the files in a shared name space, and the backup request is transmitted to the file server upon determining that the requested file is maintained in the shared name space. The backup server transmits a message to the file server to provide the requested file. The file server transmits the requested file to the backup server, and the backup server stores the requested file in a storage device. (See, e.g., Abstract, column 2, lines 27-60, and column 3, line 18, through

column 6, line 54). However, Anglin does not teach a second server obtaining backup data from a second storage device that stores duplicate data of a file.

Thus, Anglin does not teach or suggest the present invention, in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier. More particularly, Anglin does not teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 14, the above described second feature of the present invention as recited in independent claim 7 and the above described third feature of the present invention as recited in independent claim 10.

Kleiman (U.S. Patent No. 6,041,118) shows a method and system for duplicating all or part of a file system while maintaining consistent copies of the file system. The file server maintains a set of snapshots, each indicating a set of storage blocks making up a consistent copy of the file system as it was at a known time. The snapshot can be used for duplicating or transferring a backup copy of the file system to a destination storage medium. The snapshots may be manipulated to identify sets of storage blocks in the file system for incremental backup or copying. However, as used in Kleiman, a "snapshot" refers to a set of storage blocks disposed using a data structure. The data structure for the snapshot is a file system object, such as a blockmap, wherein the blockmap includes a bit plane having one bit for each

storage block, other than the: bits used to identify if the storage block is in the active file system. (See, e.g., Abstract, column 1, lines 49-61, column 2, lines 40-59, and column 4, lines 20-67).

Thus, Kleiman also does not teach or suggest a second server that obtains backup data from a second storage device that stores duplicate data of a file. Accordingly, Kleiman does not teach or suggest the present invention, in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier. More particularly, Kleiman does not teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 14, the above described second feature of the present invention as recited in independent claim 7 and the above described third feature of the present invention as recited in independent claim 10.

Mutalik (U.S. Patent No. 6,611,923) shows a system and method for backing up data stored in multiple mirrors on a mass storage subsystem under control of a backup server. The system includes a storage subsystem, a backup server, and a host, which is the backup client. The backup server includes a discovery module that receives the backup request and identifies at least one storage location on the storage subsystem where data to be backed up is stored. During a preparation phase, the storage subsystem severs a



mirrored copy and makes it available to the backup server for the backup operation. The storage subsystem retrieves data from the storage location and transfers the data to the backup server. The storage subsystem may then resynchronize the mirrored copies. (See, e.g., Abstract, FIGS. 1-3, column 2, line 48, through column 3, line 34, and column 5, line 20, through column 6, line 37).

Thus, in Mutalik, the storage subsystem retrieves the data and transfers the data to the backup server, whereas in the present invention, a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier. Accordingly, Mutalik does not teach the present invention. More particularly, Mutalik does not teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 14, the above described second feature of the present invention as recited in independent claim 7 and the above described third feature of the present invention as recited in independent claim 10.

Nowakowski (U.S. Patent Application Publication No. 2003/0212870) shows a method and apparatus for mirroring data stored in a mass storage system by copying data stored in a first storage device to a second storage device. The second storage device can be used for facilitating backing up of the data, since it is known that the first storage device and the second storage

device are synchronized and contain identical data from which a backup may be generated. (See, e.g., Abstract, FIGS. 1-2, paragraphs [0010], [0016]-[0021], and [0029]). However, Nowakowski only teaches a single server in communication with a storage device.

Thus, Nowakowski does not teach the present invention, in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier. More particularly, Nowakowski does not teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 14, the above described second feature of the present invention as recited in independent claim 7 and the above described third feature of the present invention as recited in independent claim 10.

Honma (U.S. Patent Application Publication No. 2004/0073677) shows a computer system that includes a non-disruptive backup feature. By using a series of internal functions in storages, copying from primary volumes to be backed up to secondary volumes is executed to make a copy of the primary volumes. The primary and secondary volumes created with the mirroring software are mirror split according to an instruction from a collaborating tool (software) in the application server, and while backup is performed by using one volume (the secondary volume), jobs are enabled to continue by using the other volume (the primary volume). Then, after the backup process

terminates, resynchronization of the mirrored volumes is performed. The backup copying of data in the secondary volume is made to a backup device such as a tape unit connected with the backup server by use of the collaborating tool in the backup server. (See, e.g., Abstract, FIGS. 4-8, paragraphs [0011], [0012], and [0047]-[0055]).

Thus, Honma does not teach a second server that requests an information from a first server regarding information for backup. Accordingly, Honma does not teach the present invention, in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier. More particularly, Honma does not teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 14, the above described second feature of the present invention as recited in independent claim 7 and the above described third feature of the present invention as recited in independent claim 10.

Demmon (U.S. Application Publication No. 2004/0167972) shows an apparatus and method for providing dynamic and automated assignment of data logical unit numbers (LUNs) used with an interface on a management server to control a data backup process in a storage area network (SAN). Data backup is accomplished by creating a snapshot LUN that represents an exact copy of an existing LUN at a given point in time, wherein the snapshot

LUN is assigned a unique identifier. The unique identifier is passed to a backup server, and if the backup server can access the snapshot LUN, then the backup is executed. However, if the backup server cannot access the snapshot LUN based on the unique identifier, the snapshot LUN IS assigned to the backup server by the management server. The backup server can then backup the data represented by the LUN. (See, e.g., Abstract, paragraphs [0007]-[0008] and [0018]-[0023]). However, Demmon teaches a dedicated backup server that uses backup software to create the snapshot LUN, rather than having the location of an existing duplicate file communicated to it by another server.

Thus, Demmon does not teach a system in which a second server makes a request to a first server for information necessary for the second server to backup a file as a backup object instead of the first server, and where, in response to the request, the first server sends an identifier of a second storage device that stores duplicate data of the file, and the second server obtains backup data from the second storage device, based on the identifier. More particularly, Demmon does not teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 14, the above described second feature of the present invention as recited in independent claim 7 and the above described third feature of the present invention as recited in independent claim 10.

Therefore, since the references fail to teach or suggest the above the above described first feature of the present invention as recited in independent claims 1 and 14, the above described second feature of the

present invention as recited in independent claim 7 and the above described third feature of the present invention as recited in independent claim 10, it is submitted that all of the claims are patentable over the cited references whether taken individually or in combination with each other or in combination with any of the other references of record.

**(F) Conclusion**


Applicant has conducted what it believes to be a reasonable search, but makes no representation that "better" or more relevant prior art does not exist. The United States Patent and Trademark Office is urged to conduct its own complete search of the prior art, and to thoroughly examine this application in view of the prior art cited herein and any other prior art that the United States Patent and Trademark Office may locate in its own independent search. Further, while Applicant has identified in good faith certain portions of each of the references listed herein in order to provide the requisite detailed discussion of how the claimed subject matter is patentable over the references, the United States Patent and Trademark Office should not limit its review to the identified portions but rather, is urged to review and consider the entirety of each reference, and not to rely solely on the identified portions when examining this application.

In view of the foregoing, Applicant requests that this Petition to Make Special be granted and that the application undergo the accelerated examination procedure set forth in MPEP 708.02 VIII.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (566.43176X00).

Respectfully submitted,

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